

Sims (g.m.)

THE TREATMENT
OF
EPITHELIOMA OF THE CERVIX UTERI.

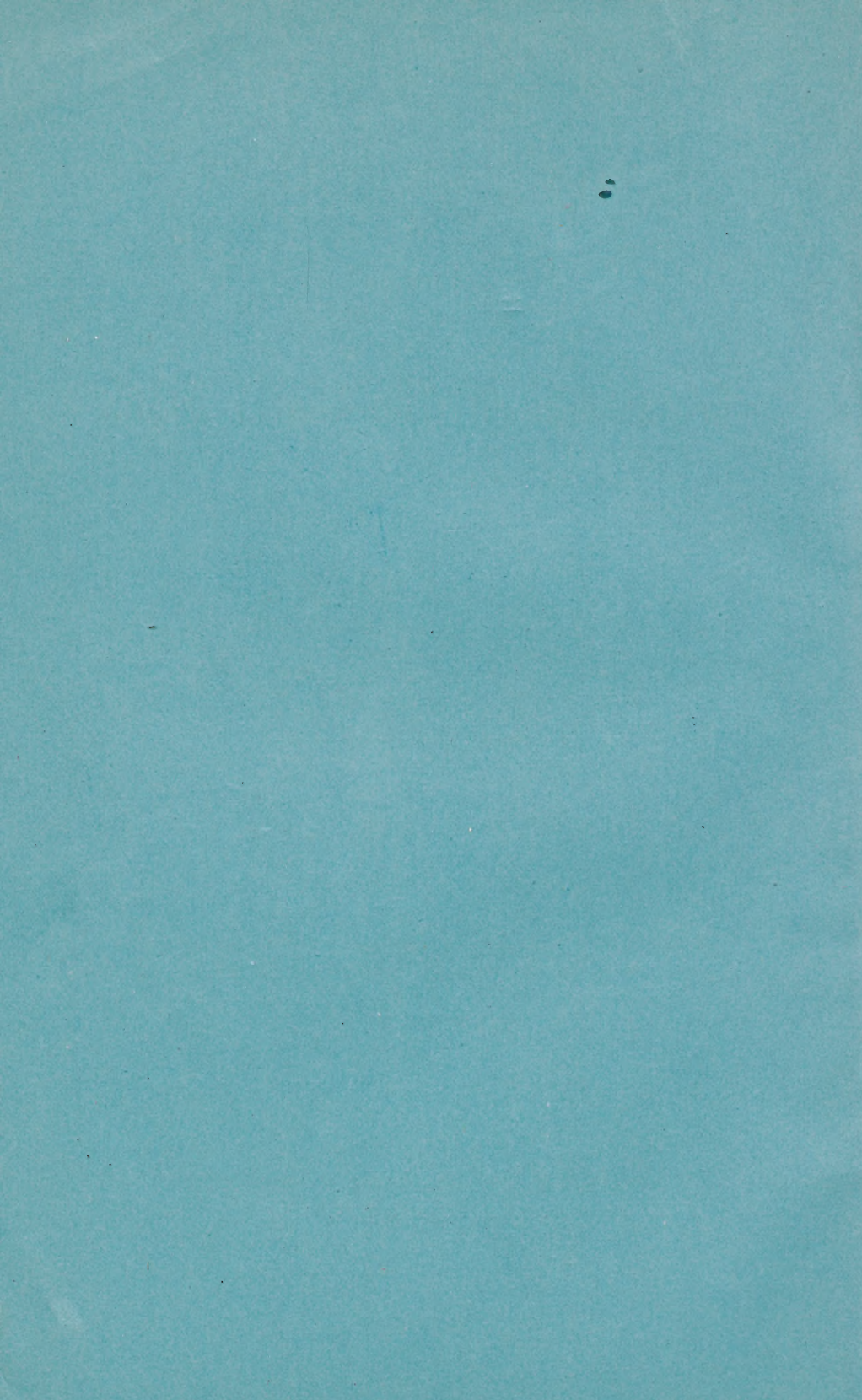
BY

J. MARION SIMS, M.D.,

FOUNDER OF THE WOMAN'S HOSPITAL OF THE STATE OF NEW YORK, AND FORMERLY SURGEON TO THE SAME; EX-PRESIDENT OF THE AMERICAN MEDICAL ASSOCIATION; HON. FELLOW OF THE OBSTETRICAL SOCIETIES OF LONDON, DUBLIN, AND BERLIN; HON. FELLOW OF THE ROYAL ACADEMY OF MEDICINE OF BELGIUM; KNIGHT OF THE LEGION OF HONOR, ETC., ETC.

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EPITHELIOMA of the cervix uteri was first described by Gooch and Clarke as cauliflower excrescence. We know very little of its early stages, because it presents no characteristic symptoms till it is well advanced. It never occurs under the 20th year; is rarely seen before 30; is frequently observed between 30 and 40; but is more commonly met with from 40 to 50 years of age. It occurs so frequently about the time of change of life that many women look forward to the climacteric period with dread. It is more frequent in the married than the single. Its first symptom is often a discharge of blood after coitus, or after using the vaginal syringe. Again menstruation may become profuse, and sometimes a serous leucorrhea may call the attention of the patient to the fact that something is wrong. The disease may gradually advance to a serious state, while the patient presents all the outward signs of vigorous health. As it is not at first attended with pain, the patient may think that the irregular or profuse menstruation and the serous discharge are only the symptoms of change of life. And she may not be aroused to a sense of danger till some of her

family or friends see that she is falling off in flesh, and becoming cachectic in appearance, or dropsical.

Then she is forced to seek medical advice, when, alas! it is often too late to stay the ravages of a relentless malady. We have been taught that epithelioma of the cervix uteri is always necessarily fatal. Thirty years ago, the actual cautery, as practised by the French school, was supposed to be the only reliable means of staying its progress.

When Chassaignac introduced the *écraseur* into surgery, it was resorted to for the purpose of removing epithelioma of the cervix when it was sufficiently pedunculated to be surrounded by the chain or wire loop. In several instances, the *écraseur* drew in the neighboring tissue, and made artificial openings into the bladder or into the peritoneal cavity. A remarkable example of the latter accident occurred in my own practice in the Woman's Hospital in 1860, when the peritoneal cavity was opened. Fortunately, the patient recovered from the immediate effects of the operation, but died eight or ten months afterward of cancer.

After the *écraseur* came the electro-cautery introduced by Middeldorff, of Breslau. It was immediately adopted by Dr. Noeggerath, of New York, and Dr. Byrne, of Brooklyn. One of Dr. Noeggerath's earliest operations with it was on a patient of Dr. Nott's and mine, in the autumn of 1868. The epitheliomatous cervix was successfully removed, and the patient had a good recovery and a respite for two or three years. Then the disease recurred and ended fatally.

The experience of Dr. Byrne with the electro-cautery in this department of surgery is perhaps more extensive than that of any other surgeon, whether in Europe or America, and his success has been remarkable.

Dr. Routh¹ and Dr. Wynn Williams² have each made valuable contributions on the use of bromine as a caustic in uterine cancer.

The bromine treatment was first brought prominently be-

¹ On a new Mode of Treating Epithelial Cancer of the Cervix Uteri and its Cavity. By C. H. F. Routh, M.D., Physician to Samaritan Free Hospital, etc. Vol. VIII., Transactions of the Obstetrical Society of London, 1867.

² Cases of Cancer of the Womb successfully Treated by Bromine. By A. Wynn Williams, M.D., Physician to the Samaritan Free Hospital, etc. Vol. XII., Transactions of the Obstetrical Society of London, 1871.

fore the profession by Dr. Routh, in 1866, and many cases have been reported as having been cured by it.

Twenty years ago, I performed some operations for epithelioma of the cervix uteri; but with such poor results that I abandoned the operation, till the experience of Routh and Wynn Williams in London, and of Byrne and Noeggerath in New York, encouraged me to undertake again the treatment of these hopeless cases. And in 1868 I began to investigate the subject anew. I discovered that the electro-cautery often burnt the anterior wall of the vagina and the urethra unnecessarily, and that it was followed sometimes by unexpected hemorrhage. I now recall an instance in which Dr. Byrne kindly amputated, for one of my patients, the cervix which was the seat of epithelioma. The cervix was pulled forward by hook, the platinum wire was passed snugly around it just at the junction of the vagina and cervix; the battery was put to work; the wire cut partially through the tissues; the cervix was then pulled forward a little more, and the heated wire was drawn slowly through the cervix, amputating it neatly and cleanly, leaving a cup-shaped base covered with a grayish-looking eschar. I was well satisfied with the operation. But at 2 o'clock next morning, about twelve hours after the operation, I was hastily summoned to my patient, who was completely exhausted by a sudden arterial hemorrhage that came on while she was asleep. I fortunately arrived in time to arrest the bleeding with the iron-cotton tampon. On other occasions I have seen the electro-cautery followed by immediate hemorrhage which could only be restrained by forcibly tamponing the vagina with styptic cotton. And many times I have seen the battery fail to work just when it was most needed. Take it all in all, I have been so unfortunate in my experiments with the electro-cautery that I have for some time abandoned it altogether. About this I have no regrets, as I have gotten rid of a troublesome, expensive, filthy, and unreliable apparatus, and substituted for it a method which gives less trouble, is more efficient in execution, and more certain in results. It was claimed by the advocates of the electro-cautery that it was less liable to be followed by septic poisoning and peritonitis than other methods of operating; but experience has not established this claim as being well founded.

The success of all operations for cancer, whether of the cervix uteri, of the mamma, or elsewhere, depends upon the thoroughness with which the operation is executed. Many operations fail because the diseased structure is not wholly extirpated. Complete extirpation is the appropriate method of operation. By the *écraseur* or the electro-cautery extirpation is impossible in the majority of epitheliomatous growths of the cervix uteri. They simply amputate the infra-vaginal portion of the disease, leaving the base or radicles of the cancer deeply implanted in the cervix, from which it readily shoots up again. My plan of operating is that of extirpation, and not that of a merely superficial amputation.

In 1869, '70, and '71, I was in the habit of extirpating the cervix uteri for epithelioma, and of then closing up the conically excavated cervix with silver sutures, leaving a central opening for drainage.¹ In a week, the wire sutures were removed, and the patient sent home. However, the result was anything but satisfactory, for the disease would invariably burst forth in a few weeks, to run its course as rapidly to a fatal termination as if nothing had been done to arrest its progress.

Empiricism often lends valuable aid to the progress of medicine. A remarkable example of this sort was seen in New York many years ago. A noted empiric came to New York in 1854 and advertised to cure cancer. People flocked to him from all parts of the country in great numbers. Of course, the greater number of cases were not cured at all, but I must do him the justice to say that he succeeded in giving relief to many. He taught the profession this truth, which we would not accept from such a source, that better and more permanent results followed the use of caustics, and a consequent sloughing, than followed the use of the knife with healing by the first intention. This we certainly did not know in America till it was demonstrated by Mr. Gilbert, who gloried in being a charlatan, believing honestly in his remedy and method of treatment.

Maisonneuve, who has long stood foremost among French surgeons, has always advocated the caustic sloughing plan of treating cancer, as furnishing better results than the knife possibly could. And Dr. Newton, an "eclectic" practitioner, of New York, claims greater success in open treatment of cancer by the saturated solution of sulphate of zinc than has ever been

¹ The first operation I ever performed in this way was in 1859.

obtained by the cutting process alone. I am satisfied that the plan by caustics that produce a slough is attended with better results than any other.

My plan of operating for epithelioma of the cervix is not to amputate, but, as before said, to exsect the whole of the diseased tissue, following it up to the body of the uterus if necessary, and when all is done that can be done by knife and scissors, then caustic strong enough to produce a slough is to be applied to the part from which the cancerous tissue has been exsected, and allowed to remain there till the slough is ready to come away.

I can better illustrate my method by clinical examples.

In October, 1873, Mrs. M., aged 35, the mother of four children, was sent to me by her physician from a neighboring town with epithelioma of the cervix uteri. She had been losing blood for several months and had a profuse serous leucorrhea. She had no pain whatever and was the picture of good health.

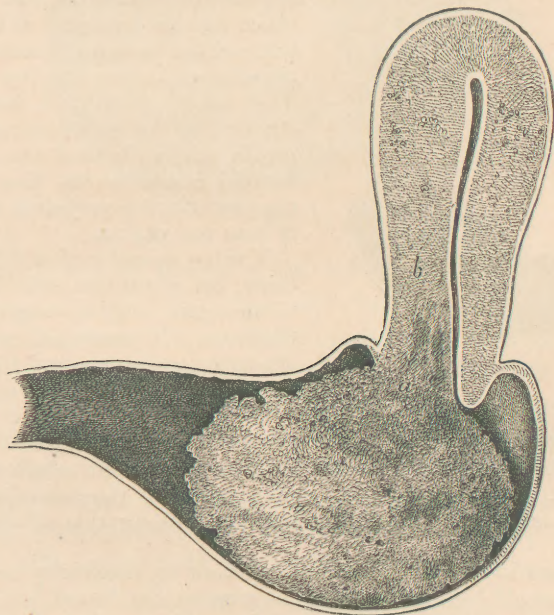


FIG. 1.

On examination, I found the upper part of the vagina filled with a round knobby tumor, springing from and involving the anterior lip of the os tincæ. It was about the size of a Sicily orange, and bled easily on slight pressure. The uterus was movable, and the vaginal membrane was not infiltrated. Fig. 1 represents the tumor

growing from and being a continuation of the anterior portion of the cervix uteri.

This case would have pleased those who advocate amputation, whether by the *écraseur* or by the electro-cautery. With either of these the tumor would have been removed in the direction of the dotted line *a*, leaving the portion between *a* and *b* reaching up to the os internum. But, guided by former experience, I determined to exsect the tumor as far up as I could find any diseased structure. And so, after breaking down the tumor and removing it with scissors at the dotted line *a*, I continued the operation by exsecting with knife and tenaculum the anterior half of the cervix quite up to the os internum, as shown by the dotted line *b*.

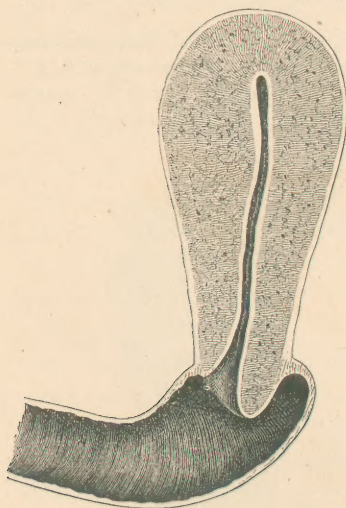


FIG. 2.

With the appropriate after-treatment, the excavated cervical canal filled up with healthy granulations in a fortnight, and in another week Mrs. M. returned home with the injunction to report to her family physician every two months, to see if there should be any recurrence of the disease. When she left me, the os uteri presented the appearance represented by Fig. 2. The anterior lip had been destroyed by the operation, and the cervix anteriorly and the vagina formed a continuous line, while the posterior lip projected normally into the vagina.

Twelve months after this operation, her physician sent Mrs. M. to me again, with a recurrent epithelioma. It presented precisely the same symptoms and the same appearance as the first tumor did.

But it was a little larger and grew wholly from the posterior portion of the cervix uteri, filling up the vagina to a greater extent than the first one did. Fig. 3 represents the appearance and relative size of the tumor. It seemed to be a prolongation of the posterior lip of the os tincae, as the first tumor was the prolongation of the anterior.

The operation by the wire loop, whether by electricity or by the *écraseur*, would have amputated the mass at the dotted line *a*. But I did not stop at this point: I cut as far up the cervix as I could find any diseased structure to remove, which was quite up to the os internum, as shown by dotted line *b*. In three weeks she returned home, seemingly perfectly cured.

The vagina is often shortened by these operations, but in this case the vagina retained its normal size, and at its fundus we could

see, instead of the cervix uteri, only a small puckered sulcus which marked the opening of the uterine canal.

Mrs. M. returned home with the injunction to report herself every two months to her physician for examination.

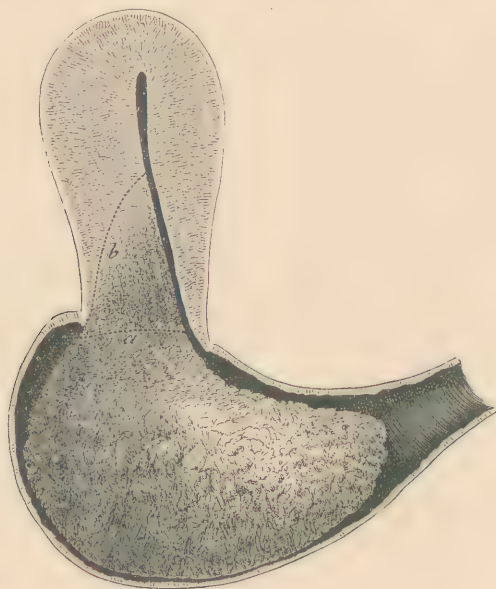


FIG. 3.

Exemption from suffering and the prolongation of life can only be purchased, under these circumstances, by constant vigilance. It is, therefore, necessary to watch all such cases as this from time to time, and whenever a rounded knobby tumefaction appears at the orifice of the uterine canal, or a fungous granulation is seen to spring up, not larger than a pea, we should lose no time in repeating the operation. In case of a mere pearly knob with purple base, it is necessary to incise it, and excise every trace of disease, whether by knife, scissors, or curette, and follow this up with appropriate caustic treatment.

In the last five years Mrs. M. has been obliged to return to New York as many times to have granulations removed. In one instance it was necessary to incise largely the puckered vaginal opening of the uterine canal, and remove by curette granulations amounting in bulk to the size of an English walnut.

Notwithstanding all this, Mrs. M.'s general health continues perfect. She has no pain; there is no emaciation, no cachexia, no loss of appetite, and no evidence of constitutional poisoning.

But for these operations, there is every probability, nay, certainty, that she would not have survived the first invasion of the disease more than twelve or eighteen months. For eighteen months is about the ordinary duration of this disease. Prof. Fordyce Barker has seen one case that lasted for twelve years, and I have seen one of ten years' duration, and another of six. But in these two, there were never at any time great hemorrhages, nor great wasting from profuse serous discharges. Instead of large masses of granular matter to break down and slough off, leaving large sinuses to distil a septic, ichorous fluid to be absorbed and to poison the blood, I noticed a small indurated irregular fissure with knobby granulations that gave issue to sero-pus in small quantities, occasionally mixed with blood, all of which found an easy outlet from the vagina. Instead of the ulceration extending up into the body of the uterus, it gradually and slowly encroached on the walls of the vagina. Cicatrization seemed slowly to follow ulceration, till the uterus was gradually drawn down from its position, high up in the pelvis, by the vagina which as gradually shortened, till it had almost entirely disappeared, and the fissure marking the place of the uterine outlet was not more than an inch from the ostium vaginæ. When large fungoid tumors break down and slough, and when this sloughing extends up into the body of the uterus, then the system becomes rapidly poisoned by the absorption of septic matter, and the patient dies generally in a dropsical state. Again death may come by some intercurrent disease, such as peritonitis, pneumonia, etc. Matthews Duncan¹ truly says: "The chief causes of death in cancer are peritonitis, uremia, septicemia, pyemia, and complications from diseases of veins or important viscera."

In my method of operating for epithelioma of the cervix, we need the speculum (Sims'), a proper knife, medium-sized scissors slightly curved on the flat, a dozen or more sponge probangs, tenacula, volsella, lock forceps for seizing arteries (Fig. 4), and styptic cotton-wool.

Hemorrhage has always been the great bugbear of uterine surgery. Until the introduction of the *écraseur* by Chassaignac, nothing was more common than the use of Gooch's

¹ Clinical Lecture on Cancer of the Body of the Uterus. By J. Matthews Duncan, M.D., LL.D., etc. *Medical Times and Gazette*, April 12th, 1879, p. 391.

canula and ligature for the removal of a simple uterine polypus. And the experience of Robert Lee, and others of his day, proves with what unfortunate results. For patients often died

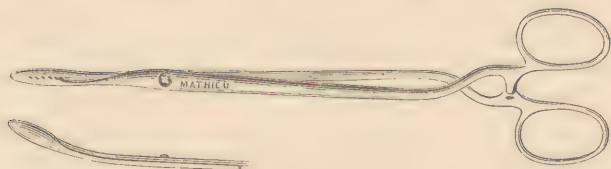


FIG. 4.

of septicemia from the absorption of septic matter before the sloughing tumor could be separated from the living tissue. Such accidents never happen nowadays, because those who fear hemorrhage use the *écraseur* or the electro-cautery, and those who do not, remove the polypus with scissors, and arrest the bleeding, if there be any, with styptic cotton-wool.

With proper precautions, and with appropriate means of arresting hemorrhage, there can be no such thing as hemorrhage to any serious extent in any of these operations for epithelioma. If the tumor have any degree of solidity, there is no danger of hemorrhage at all. If it be soft and easily scooped away with the curette, the bleeding may be profuse.

But when it is soft and ready to break down, the *écraseur* and cautery are equally inapplicable, and we have no alternative but in the curette, whether the bleeding be profuse or not. But there is never any danger if we have prepared ourselves to control the hemorrhage, it matters not how furious it may be.

Let us suppose that we are called upon to operate on such a case as is represented in Fig. 1 or Fig. 3.

The patient, properly prepared and etherized, is to be placed on a table in the left lateral semiprone position; the Sims speculum applied, the tumor is to be seized with volsella, pulled forward, and held firmly. We then begin with the curette to break down and draw out the cancerous masses as fast as possible. But if fortunately the tumor holds well together, then we take the scissors and begin to cut loose the tumor from the cervix uteri anteriorly and laterally. When the tumor is rather firm and requires the knife or scissors for its removal, the bleeding is not severe, and constant sponging by the assistant keeps

the vagina tolerably clear of blood. If the circular artery should be cut, we clasp it with a pair of spring forceps, the bleeding ceases instantly and we proceed with the operation, the forceps hanging from the vagina and still holding the artery. Sometimes we may have two spring forceps in use at one time, and now and then three. But this is very seldom. And when the forceps are removed we usually find that they have succeeded in controlling the hemorrhage entirely. Let us suppose that we have removed all that it is possible to remove with scissors. We might think the operation finished, but it is not so. With sponge probangs we clean out the cervical cavity made with scissors, and we pass the index finger into it, and if we find any indurated structure, whether the size of a grain of wheat or much larger, it must be removed.

Just as long as we can detect any of this indurated tissue by the touch, just so long must we continue to excise it, till the walls of the uterus are entirely freed from it, and have the soft elastic feeling characteristic of the natural structure. We remove this indurated tissue piecemeal, some pieces being not larger than a barleycorn, while others may be as large as the little finger nail. This is by no means difficult. While the patient lies in the left lateral semiprone position, the uterus is drawn down almost to the ostium vaginæ by a tenaculum or forceps; the left index-finger is passed into the uterus; the sense of touch immediately detects the horny, gristly, abnormal tissue, which is hooked up by a tenaculum, raised up to view, and cut out with a knife. My uterotome (Fig. 5) answers this purpose admirably. Any narrow-bladed knife with a long handle will do just as well.

This process is to be continued till every portion of gritty-feeling tissue is removed.

When we are perfectly satisfied that all diseased tissue is removed, which is known by the touch, we then, with scissors or knife, trim the edges of the cavernous opening made by the operation all around, whereby the vagina becomes continuous with what remains of the supra-vaginal cervix uteri. But the cervix, properly speaking, infra-vaginal portion, will be found to have been wholly removed with the diseased mass.

The lock forceps, if there are any in use, are to be removed, the parts to be sponged as dry as possible, and quickly filled

with styptic cotton-wool, rendered styptic either by the solution of persulphate of iron, or a saturated solution of alum. If iron is to be the styptic, then we take liq. ferri subsulphatis, 1 part, water, 2 parts. Mix, and saturate the cotton-wool, and squeeze it almost dry, and then fill the conical cavity made in the uterus by the operation with it. Pack it in tightly and cover it over with other layers of the cotton-wool styptic tightly packed, till the upper third of the vagina is securely tamponed. This is to be held *in situ* by plain cotton-wool wet in carbolized water, packed in till the whole vagina is firmly tamponed.

The patient must not be removed from the table to the bed as long as there is any oozing of blood. We must be sure that it is completely arrested. If we are in any doubt about it, a portion or even the whole of the tampon must be removed, and be reapplied anew, taking care to do the tamponing in a more thorough manner.

If we choose alum as the styptic, then prepare a carbolized solution (1 to 40) and saturate it with pulverized alum (1 to 12). Wet the cotton-wool in this solution, squeeze it nearly dry, and put it in a stoppered bottle and it is ready for use.

The operation over, the patient is put to bed. It is often, almost always, necessary to administer an anodyne, and the catheter must be used as required. In a few hours, perhaps four or five, it may be necessary to remove with the tampon screw a few pieces of the cotton-wool from the lower part of the vagina to take the pressure from the neck of the bladder, and even to relieve pain in the back.

We may remove more of the tampon on the following day.



FIG. 5.



FIG. 6.

But that portion of the tampon that fills the upper part of the vagina, and especially that in the neck of the uterus, is not to be disturbed till the fourth or fifth day. When this is wholly removed, then the conical excavation of the cervix, the real seat of the epitheliomatous growth, is to be filled with cotton-wool wet in a solution of chloride of zinc. Chloride of zinc is soluble in its weight of distilled water. But I usually make the solution thus

R. Zinci chloridi..... 3 v.

Aq. destillat..... 3 i.

M. ft. sol.

Saturate cotton-wool in this solution, then squeeze it dry and it is ready for use. Bits of cotton-wool thus prepared with chloride of zinc, the size of an almond, are to be snugly packed into the cervix till it is filled up to the level of the vagina. Then the upper part of the vagina is to be tamponed tightly with cotton-wool saturated with a solution of bicarb. soda.

The chloride of zinc produces intense pain, and it is always necessary to give morphia hypodermically and in sufficient quantities to relieve it.

If the zinc cotton-wool is too wet, the superabundant fluid runs down the vagina and inflames it. It is, therefore, necessary to squeeze it very dry before stuffing it into the cervix.

The cotton-wool wet with a solution of bicarbonate of soda is intended to protect the walls of the vagina against the irritating qualities of the zinc. But it does not seem to do much good. I have tried the albumen of egg, tannin, and other protections that have been recommended to me for this purpose, but with no better results.

It is very desirable to find something that will neutralize the chloride of zinc, and protect the walls of the vagina against its irritating qualities. The chloride produces no permanent mischief, but it is attended with suffering, and it irritates the urethra, thus producing frequent micturition.

The cotton-wool that retains the chloride *in situ* may be removed in part the next day, and wholly in a day or two more. But the zinc wool in the cervix is not to be interfered with till the fourth or fifth day after the operation. For this purpose it is better to place the patient on the table in the left lateral semiprone position and to use a Sims speculum of a small size.

For the vagina will be found to be so puckered up by the action of the chloride of zinc that a large, or even an ordinary speculum could not be introduced without giving great pain.

When the parts are well exposed, we may or may not remove the zinc cotton-wool from the neck of the uterus. If it is in the least adherent, it is better to leave it for another day, and then it will be removed with facility and without danger of hemorrhage.

When the zinc wool is all removed, we will find the hollow cone that it occupied smoothly covered over with a cup-shaped slough which may be taken away, sometimes in one entire piece. Again it may break and come away in two pieces. It is usually from one to two millimetres thick, say about a sixteenth of an inch. It is opaque, tough, pliable, smooth, and of a dull pearly-grayish color. It leaves a cavity filled with healthy-looking granulations, which under the daily use of carbolyzed warm vaginal injections heals up in ten or fifteen days.

It will be seen that the treatment proper after the operation occupies about ten days, and that cicatrization then requires about a fortnight more. The operation divides itself into two stages, that of extirpating the whole of the diseased tissue, and that of filling up the hollow cone made in the cervix by this operation and of tamponing the vagina to retain the cervical dressing in its place. The only object of this is to arrest all hemorrhage. If the seat of operation could be cleaned of blood and made sufficiently dry, we might resort to the caustic at once, but that is seldom possible. And so it is necessary to use the iron or alum styptic to arrest all oozing of blood. Once the styptic dressing is made, it will take four or five days to get it away. And we must be careful not to hasten it, for fear of provoking a bleeding which would be the means of procrastinating still further the application of the caustic.

For removing the tampon, pass the left index finger into the vagina, and then pass the tampon-screw Fig. 6, by the side of it, and remove the tampon, a plug at a time, till we take away the desired quantity.

I have used the bromine, as recommended by Drs. Routh and Wynn Williams, and think it as painful as the chloride of zinc and as efficient, but not more so. But, as it affected my eyes and nose painfully, I returned again to the zinc as being easier of application, and equally powerful in result.

The bromine is dissolved in alcohol, one part to ten, according to Routh, or one part to five, according to Wynn Williams. Cotton-wool wet with the solution is placed just where we wish to produce the slough, and is then covered over with cotton-wool saturated with a solution of the bicarbonate of soda for the purpose of neutralizing the bromine, and preventing its injurious effects upon the walls of the vagina.

Sir James Y. Simpson was in the habit of using sulphuric acid in epithelioma of the cervix, but I believe he obtained no great results from it. Dr. Newton, of New York, as before stated, claims that the sulphate of zinc is the best of all potential caustics in cancers of every variety. It is certainly as painful as the chloride, but I have not experimented with it sufficiently to say how it compares with the chloride in efficiency. Perhaps it may be that I have been so well satisfied with the effects of the chloride that I have not given thought and time enough to the sulphate.

Whatever caustic we may select, whether bromine, chloride of zinc, sulphate of zinc, or what else, we should always precede its use by operative measures to remove wholly all diseased structure as far as possible with knife, scissors, or curette. We must get down to seemingly healthy structure before we apply the caustic.

Maisonneuve, if not the first to introduce chloride of zinc as a caustic in cancer, has certainly done more to popularize its use with the profession than any other man of his time. Demarquay was a strenuous advocate of its use and preferred it to any and all other caustics in cancer of the uterus. Maisonneuve uses what is called *mèche*, which is made by mixing the chloride with flour, then drying it and cutting it into little arrow-shaped pieces, which are strong enough to be pushed into the structure that is to be destroyed by the sloughing process. So great is the confidence of Maisonneuve in the safety and efficacy of this method that he now never amputates a carcinomatous breast, but he surrounds it with punctures into each of which he pushes a piece of his horny chloride of zinc paste. Of course, the pain is very great, but thanks to the hypodermic use of morphine, it soon becomes bearable. But it is necessary to give the morphine with a free hand. In a few days after the chloride paste is thus applied, the breast

sloughs, and in due time a dead mass, it may be as large as the fist, rolls out, leaving a healthy-looking granulating surface beneath, which gradually closes up and ends by complete cicatrization.

Maisonneuve contends that results are obtained by his method that have never been equalled by the knife and healing by the first intention.

In 1874, Mrs. E., 40 years old, the mother of grown children, who had enjoyed uniformly good health, had occasional attacks of flooding at the menstrual periods, and thought she was threatened with change of life. Between the periods she had a profuse discharge from the vagina, which was serous and stiffened her linen.

Feeling herself getting weaker under the exhausting discharge of blood and serum, she was induced to consult a physician, who said she had a cancerous tumor which would in ten or twelve months end fatally, as it had passed the stage at which an operation could be performed. As the case was hopelessly incurable, he proposed no treatment whatever. Indeed, he told her that if any man were rash enough to undertake an operation, she would bleed to death on the table, and that it would be wiser and safer to do nothing at all, leaving its progress and termination entirely to the laws of Nature.

In a state of desperation, Mrs. E. came to see me, and gave the history already related.

The vagina was filled with a tumor as large as a good-sized orange, which bled profusely on being gently touched. It was so large that I could not positively determine the nature and extent of its attachments. It appeared to spring from the anterior lip of the os tincæ, but how far it ran back on the posterior lip, I could not determine.

However, I agreed with her physician that, if left to itself, it would probably terminate fatally in a year, but I differed with him in regard to the feasibility of operation. I, therefore, proposed to remove the tumor, and explained to Mrs. E. fully all the steps of the operation, telling her there was not the least danger of her dying under the operation, as she feared she might.

With the assistance of Drs. Harry Sims, Nicoll, Metcalf, Jr., and W. T. Walker, the operation was performed in May, 1874.

The patient properly prepared, etherized, and placed in the left lateral semiprone position, the Sims speculum, large size, was introduced; the tumor was then grasped with volsella, drawn forward a little, held firmly, and the superficial friable portion of the tumor was quickly broken down and drawn out with the curette, and then the more resisting fibrous portion of it was cut away with scissors down to a level with the os tincæ. It was now seen that the posterior lip was not at all involved, and that the tumor grew from the anterior inner portion of the cervix. Its attachments ex-

tended along the anterior and inner face of the cervix quite to the os internum. The radicles, so to speak, of the tumor were neatly dissected from this portion of the cervix, leaving what seemed to be perfectly normal cervical tissue.

The case was then treated according to the rules already laid down for the management of such cases. That is, the bleeding was arrested by styptic cotton-wool (iron), which remained in situ five days. When it was removed, its place was filled with chloride of zinc wool, which remained five days



FIG. 7.



FIG. 8.

longer. When this was removed, the parts were left to cicatrize under carbolized warm-water injections, administered twice a day.

Mrs. E. has come regularly every two or three months for inspection. Five years have now passed away, and on examining the cervix uteri it would be impossible to say that it had ever been the seat of disease or of operation. By referring to Fig. 7, we see by what a slender pedicle it was attached. This was thoroughly exsected. If it had been simply amputated, perhaps the result would not have been so satisfactory.

Epithelioma sometimes attacks the walls of the vagina, leav-

ing the cervix uteri intact. I have seen several instances of this sort.

In June, 1876, Mrs. A. came to see me, saying her physician told her she had some serious disease that needed immediate attention. She was about 45 years old, the mother of grown-up children, and had generally enjoyed good health. In the last few months, she had suffered from pain and hemorrhage during coitus, and was now rapidly declining from a wasting discharge, loss of appetite, and mental anxiety. She had the cachectic appearance so characteristic of malignant disease, and her *morale* was very bad.

The whole posterior wall of the vagina, below the cervix uteri, was thickly studded with epitheliomatous granulations for the space of at least two and a half inches square. They came down to within an inch and a half of the perineum, and extended laterally for about two-fifths of the circumference of the vagina.

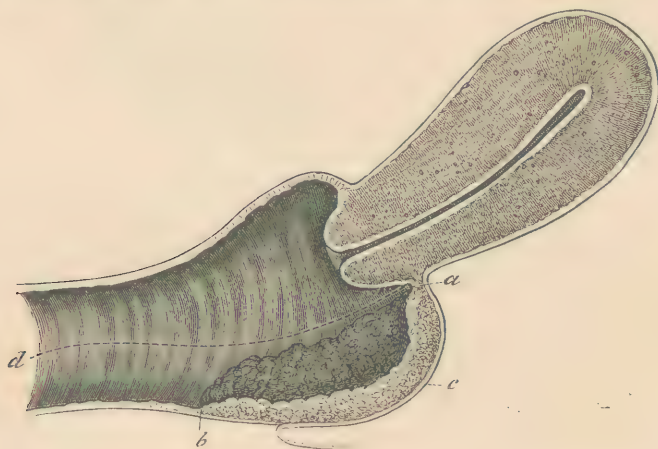


FIG. 9.

I was just on the eve of leaving home for Europe, and turned the case over to my son, Dr. Harry Sims. When the patient was placed in the left lateral semiprone position and the vagina widely dilated by atmospheric pressure admitted by the Sims speculum, the posterior wall of the vagina, from the cervix uteri *a* to the point *b* (Fig. 9), an inch and a half from the perineum, was seen to be thickly covered with epitheliomatous vegetations, extending laterally as already described. (The diagram fails to illustrate the extent of the disease laterally.) Under the influence of ether these were all curetted till the vagina presented the appearance of healthy structure denuded of its epithelial covering.

It was interesting to notice the tympanitic sound made by the curette as it was strongly scraped along the diseased surface, showing how near it was to the intestinal canal. Notwithstanding the

thinness of the membrane which at *c* separated us from the peritoneal cavity, the operation was finished precisely as it would have been done if there had been an inch of solid tissue intervening.

The removal of the epithelial growth was followed by the styptic cotton-wool (iron), and when it came away on the fourth day, the chloride of zinc was applied, precisely as we would have done it in the cervix uteri.

It remained four or five days, and when it was removed, a nice cup-shaped slough, nearly half the size of the palm of the hand, came away, leaving a smooth, healthy-looking surface which granulated and healed over in a fortnight, under the daily use of carbolic vaginal injections.

It might be supposed that there is danger of the slough extending through the posterior cul-de-sac into the peritoneal cavity, when the chloride of zinc is used in this way. But Nature guards against this seeming danger by throwing out fibrinous deposits that protect the peritoneal cavity. And it might also be supposed that there is danger of peritonitis from such treatment, but there seems to be little or none. For I have frequently applied the chloride against the posterior cul-de-sac, and always with impunity.

The sloughing and consequent cicatrization in this case necessarily shortened the posterior wall of the vagina. Instead of the posterior wall having the capacious dimensions shown by *a c b*, Fig. 9, it presented that shown by the dotted line *a d*.

Instead of a grand curve presenting itself when the patient was placed in the left lateral semiprone position, with the speculum introduced so as to allow of full atmospheric pressure, we now saw only the short, straight posterior wall as represented by the dotted lines in the figure. Some six or eight months after operation, two little suspicious-looking nodules presented themselves on the walls of the vagina on the right side, at the line of union of the anterior and posterior walls, which Dr. Harry Sims removed with the curette, treating them with the chloride of zinc in the usual way. After this he put his patient on the use of arsenic (Fowler's solution), as so strongly recommended by Drs. Washington L. Atlee and Lewis A. Sayre, and with the happiest effect. For Mrs. A. had had no return of the disease when I last heard from her; she no longer had any cachectic appearance; and she had gained flesh and strength, and considered herself a well woman.

How long this may last I cannot say. But she returns every three or four months to report herself. The timely and judicious operation by Dr. Harry Sims has certainly been the means of prolonging a valuable life. From the effects of the arsenic in this case and in some others in which I have used it, I am disposed to attach great importance to its alterative action in carcinoma.

As it can do no harm if administered in such a way and in

such doses as not to interfere with the healthy performance of the digestive functions, I would strongly advise its use after the local disease has been eradicated by surgical treatment.

Amputation of the epithelioma as now performed by most surgeons, or burning its exuberant granulations with the actual cautery, as did Jobert (de Lamballe), Nélaton, and their followers, are procedures that must give way to a more rational and more efficient method of treatment.

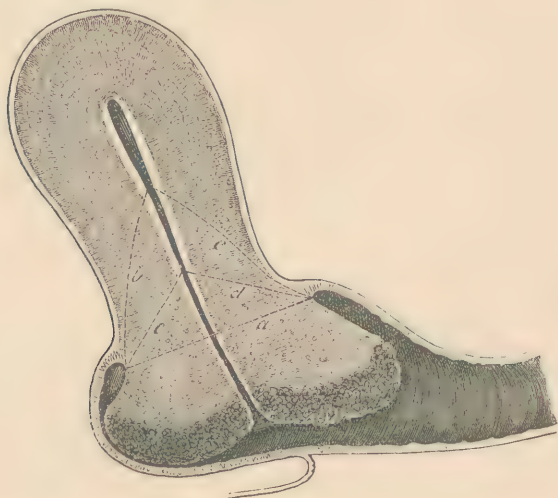


FIG. 10.

Mrs. C., aged about 41, regular, noticed a vaginal discharge in 1875, and consulted an eminent surgeon, who found a large epitheliomatous tumor growing from the neck of the uterus. The whole cervix was prolonged into this morbid mass. It was amputated just above the level of the vaginal junction with the cervix in June, 1875. In Jan., 1876, my friend, the surgeon who performed this operation, sent his patient to me. She was a large, fine-looking woman, exceedingly nervous, and very timid of all surgical procedures.

On examination I found the uterus mobile, the body slightly hypertrophied, and the cervix particularly so. The cervix was about two inches in diameter, was truncated, and projected nearly an inch beyond the level of the vagina. It had a rough and knobby feel; did not bleed; but its structure was friable and could be broken down with the finger nail.

Fig. 10 represents the relative size and shape of the cervix as it projected into the vagina. It would have been easy to amputate the disease at the dotted line *a*, with the *écraseur* or with the electro-

cautery. But this would not have eradicated all the diseased tissue. The patient placed in the usual position, most of the intra-vaginal portion of the disease was broken down and scraped away with the curette. The scissors were then resorted to, and diseased tissue was removed to the dotted line *de*, about half-way up to the os internum. The remainder of the excavation *bc* to the os internum was done with the uterotome. The finger was used to detect any hardened diseased tissue, which was then hooked up with the tenaculum raised to the level of the vagina, when it was shaved off with the knife. This process is always a little tedious, for it is necessary to search out diseased structure and remove it piece-meal. We easily recognize it by the touch, for it feels hard and is found in irregular patches, as before said, sometimes as broad as the finger-nail, sometimes larger and often much smaller. In this case this abnormal structure was found all round the inner portion of the cervix and quite up to the os internum. Indeed, it was necessary to exsect by a circular sweep of the knife the entire os internum, taking it out in two semicircular pieces. When this was finished, the case was treated as already indicated, first with styptic iron cotton-wool to restrain hemorrhage, and after four or five days with the chloride of zinc. In this case the spring forceps were used once to seize a large artery, probably the circular, which gave no more trouble afterward.

A month after the operation, the depth of the uterus was just two and a quarter inches, instead of three and a quarter, as it was before the operation. Six months after the operation, some epitheliomatous granulations appeared in the neck of the uterus on the anterior portion, which were removed with the curette, and the excavation was treated with the chloride of zinc cotton-wool as before. About nine months after this, it was again necessary to repeat the curetting for a return of fungoid granulations, evidently epitheliomatous. After the first operation, Mrs. C. was put on the use of Routh's solution of the chloro-phosphide of arsenic, which is a valuable remedy, but I fear it is not equal to the Fowler's solution in such cases as this.

How often it may be necessary to repeat these little operations with the curette I cannot tell. But the relief of suffering and the prolongation of life depend upon the prompt manner in which we resort to this process. While the disease is confined to the cervix uteri, we have it under control, but when it passes to the body of the uterus, it soon becomes unmanagable, and goes on to a fatal termination. Notwithstanding all this, almost every case is susceptible of improvement by operation, unless it is *in extremis*.

The removal of sloughing tissue with the curette, to be followed by the chloride of zinc or bromine, will often add greatly

to the comfort of the patient, by relieving pain, arresting hemorrhage and the profuse ichorous discharge. If we can do only this for such hopeless cases, we are justified in the attempt.

Sometimes we see cases in a very advanced state, where the vagina is shortened and half obliterated, where the cervix uteri has been destroyed, where the uterus is immovably fixed, where the pain and the fetid discharge, conjoined with sleepless nights, were rapidly exhausting the vital powers; and yet by operative procedures, these were all arrested for a time, and life was somewhat prolonged and rendered more comfortable. This is the rule. But there are occasional exceptions.

In April, 1875, Mrs. B., aged 47, began to complain, and after three or four months, instead of consulting her physician, she determined to go abroad, and sailed from New York in August. She arrived in London in Sept., where she intended to remain two or three months, and then pass over to the Continent for the winter. While in London, about the first of October, she noticed for the first time a slightly fetid discharge from the vagina, and she was then induced to call in a physician. She had no idea that she was seriously ill, and was laying all her plans soon to go to the South of France for the winter. The physician examined her case minutely, and told her she was very seriously ill, and that she must take the first steamer for New York, and report herself to me on her arrival.

In twelve days she was in New York, and I saw her soon afterward.

Six months previously she was in good health, and now she was completely broken down. She had latterly lost a good deal of blood; now suffered much pain, enough to require the use of opium; and the profuse, fetid, ichorous discharge was exhausting her strength very rapidly.

I found the vagina half obliterated, only half as long as it should be; the os and cervix uteri destroyed; the body of the uterus lying across the pelvis, and immovably fixed in a right line with the outlet of the vagina, and full of dead matter, which produced the fetid, ichorous discharge. Nothing could be more hopeless of cure. Notwithstanding all this, I advised Mrs. B. to submit to operation for the removal of the sloughy matter from the cavity of the uterus, with the hope of moderating the pain, and of arresting the wasting discharge, and thereby of prolonging life. For, to a mother with a family of young children, a few months of life without great suffering is a boon to be coveted.

The cavity of the uterus was cleared of all dead and removable tissue with the curette, and the case was treated as already described. In this case I used the bromine according to the formula of Dr. Routh, one part to ten of alcohol.

Mrs. B. suffered so much from pain of a neuralgic character be-

fore and during the treatment that I was obliged to give her large doses of quinine, and also of morphine to quiet the pain. She went home in a month greatly relieved. She had scarcely any pain and she was not obliged to take opium. The fetid discharge ceased; she was made comparatively comfortable, and all feter was kept at bay by the constant use of warm carbolized vaginal injections. The operation did all that was expected, and I felt satisfied with its results. But Mrs. B. died about a month or six weeks after her return home, and like many of these cases, death came suddenly and mercifully by uremic poisoning.

I have given this case as one of the most hopeless, and yet the condition of the patient was greatly ameliorated by the operation. And for such amelioration the risks of the operation are, I think, justifiable.

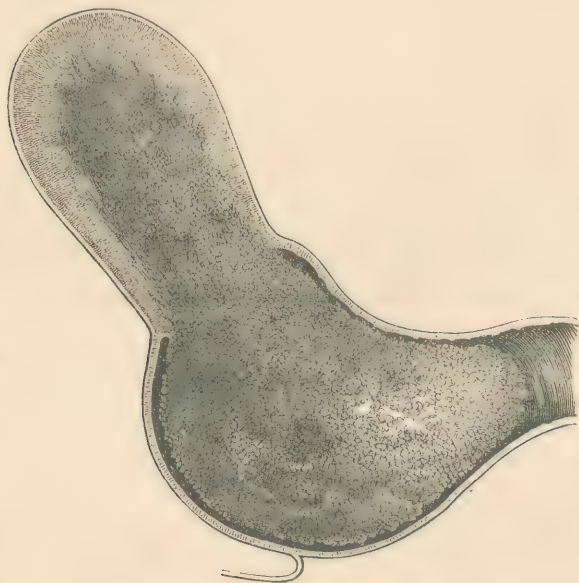


FIG. 11.

The most unfavorable cases for operation are those in which the epitheliomatous granulations penetrate deeply into the cavity of the uterus, and which can be easily removed with the curette. Fig. 11 represents just what I mean. In such cases the mass of epithelioma projecting into the vagina is always easily broken down with the curette. There is but little work for scissors, and none for the knife. The granulations in the

body of the womb are removed in great masses with facility, and unfortunately, in all such cases, the hemorrhage will be profuse, and if the operator is not prepared to arrest it promptly, it might become alarming and even dangerous. It is always of a bright arterial color, and seems to pour out from a thousand little arteries; for doubtless each filament of granular matter has its arteriole hypertrophied according to the nutriment necessary for fungoid growth.

We should always be prepared for hemorrhage under all circumstances. And before we begin to operate, we should have at least three or four whalebone applicators, ten or twelve inches long, with the small end well wrapped with styptic iron cotton-wool of sufficient length to reach quite to the fundus uteri. If the hemorrhage is very profuse, the granulations are to be removed with great celerity, and the whole cavity of the uterus quickly tamponed by pushing in one whalebone applicator armed with the styptic cotton, then another by the side of the first, and then a third, and a fourth if necessary. Thus we may have three or four whalebone instruments protruding from the vagina all at once. The hemorrhage will now be staunched, and we remove one whalebone applicator, leaving the styptic cotton-wool in the cavity of the uterus. Then the second, third, and fourth, if there are so many, may be taken away, and if there is still some fresh blood oozing by the side of these uterine styptic plugs, we arm the whalebone with a thin layer of the styptic cotton, and pass it in by the side of the others, and then another if necessary, till we are sure there can be no more bleeding. When we are sure of this, then we tampon the vagina with the styptic cotton-wool, so as to insure against the slipping of the plugs from the cavity of the uterus. When the uterus is thus tamponed, we must soon begin to remove the tampon from the lower part of the vagina, for there is always danger of septic poisoning when any considerable quantity of extravasated blood is shut up in the uterus with iron or any other styptic. It undergoes decomposition rapidly, and as it lies in contact with a largely denuded surface, it is placed under the most favorable conditions for a rapid septicemia.

We must, therefore, get this tampon out of the cavity of the uterus as soon as possible. And if in even twenty-four hours we

find the pulse, and particularly the temperature running up, we have no time to lose, and the tampon must come away even at the risk of inducing hemorrhage. Fortunately under these circumstances, we seldom have hemorrhage after removal of tampons.

During the operation the hemorrhage is profuse, and we are obliged to resort to heroic means to arrest it. Once arrested, we begin to fear the danger that may arise in consequence of the means adopted for this purpose; and as soon as it is safe to do so, we remove the tampon entirely. Thus we see that what was absolutely essential to saving life to-day, may to-morrow become the ready means of destroying it. The judgment of the operator must then be as quick to detect the danger and ward it off in the latter instance, as it was in the former.

We often see uterine cancer in such an advanced state that we can do nothing but give anodynes to relieve pain, and take precautions to insure cleanliness. Each of these is of prime importance. Pain may be borne for a while; but antiseptic injections cannot be dispensed with. For they are essential, not only for the comfort of the patient, but for that of the family and attendants.

A few years ago a young lady came a great distance to ask me to go and see her mother who was dying of cancer of the uterus. She had been for months her mother's nurse. She remained about two hours in my house waiting for me. Her clothing was so saturated with the odor of intestinal mortification that, in this brief period, it permeated every room in the house. It was in December; the ground was covered with snow, and it was very cold. To purify the atmosphere of the house, it was necessary to ventilate and disinfect it thoroughly. When I arrived at the home of the patient the next day, although the temperature was 16° F., the cancerous odor was encountered in the open piazza, and in the house it was something beyond description. The patient was 40 years old, and had had good health till about twelve months before. She was comparatively rich, had always enjoyed the comforts and luxuries of life, and was now dying in an atmosphere polluted with an autogenetic poison, compared with which the air of the dissecting room is sweet.

The case was unique in every sense; not only in its disagreeable penetrating effluvia, but in its anatomico-pathological features. The vagina was intact and of enormous proportions. The uterus was entirely destroyed; and in its stead there was a cavernous pouch, the size of the closed hand, extending some five or six inches up

among the intestines in the direction of the umbilicus. It was about ten inches from the ostium vaginæ to the fundus of this pouch. There was no induration of tissue to be found, simply, I presume, because a rapidly sloughing process was going on without any reparative effort at cicatrization. For the same reason there was but little pain or suffering, and the patient had taken but little morphine. Great pain in cancer is usually allied with indurated tissue.

In a case like this, if we cannot save life, we can at least purify the atmosphere. By placing the patient in the left lateral semi-prone position, and using a large (Sims) speculum, I could see to the very top of the cavern, which was full of loose, grayish, sloughy tissue, easily removed by wiping it out with sponge probangs.

I then attached a gum-elastic catheter No. 12 to a Davidson syringe and by passing it to the fundus of the sloughing pouch, its surface was cleaned by complete ablution with warm disinfectant washes.

In a few days the atmosphere of the house was rendered comparatively pure by the free use of carbolized injections.

We should never allow such a state of things to exist as was found in this case. Sometimes it is justifiable to submit advanced cases of uterine cancer to operation by the curette, merely for the purpose of removing the sloughing debris from the cavity of the uterus, and thereby of preventing fetor. A cancer without a slough has no odor. Dead matter in cancer produces fetor, and its absorption produces the cancerous cachexia. We are, therefore, doubly justified in scraping it out whenever the patient is strong enough to take an anesthetic.

The ravages of uterine cancer are sometimes fearful.

I have seen two cases where cancer had invaded the body of the retroverted uterus, which then became adherent to the rectum and by ulceration between the two, a fistulous opening was made, by which feces passed involuntarily through the body of the uterus and the vagina. To these horrible complications we often see added involuntary loss of urine through a sloughing of the base of the bladder.

Under these circumstances, the sooner the poor sufferer dies the better, both for herself and her family.

Pain is not commonly an attendant on cancer in its early stages. It belongs to a later period, characterized by inflammation and its products. But come when it may, it soon becomes a prominent symptom demanding prompt attention.

Whenever it prevents sleep, or by its prolonged continuance

exhausts the nervous system of the patient, we must control it. Opium in some form is the best of all anodynes in this disease. We may give laudanum by the rectum or the mouth, or we may give some of the salts of morphia by the mouth or hypodermically.

Some patients will prefer McMunn's elixir of opium; some Squibb's denarcotized laudanum, and others chlorodyne. When the patient once resorts to opium, she will be obliged to continue it during the remainder of her brief existence. Though capable occasionally of doing mischief, it is in the majority of cases a divine gift.

In 1873, a lady, aged 36 years, the mother of four children, the youngest being two years old, came to me for advice, merely to please her sister, who insisted that her altered appearance indicated some latent disease. She herself was not conscious of being out of health. She ate well, slept well, was free from pain, menstruated regularly and normally, had no leucorrhea, and all her functions were healthily performed. There was no history leading us to suspect disease in any organ, and there was no suspicious family history.

But on examination I found the cervix uteri degenerated into an epitheliomatous mass about two inches across and projecting into the vagina for an inch or more. Her husband had sailed a few days before for Europe, to be absent two months. I told her frankly that her disease was so serious that we could not wait two months for his return; that an operation was necessary; and she consented to have it done at once. I called Dr. Emmet in consultation; he recognized the gravity of the affection, and said that she could not afford to lose a day. The operation of exsecting the diseased mass was performed, and the parts healed up. About six months afterwards, the disease reappeared, and the operation was repeated and followed up with the chloride of zinc. Cicatrization was complete, but from this time on her sufferings became so acute as to require the daily use of morphine hypodermically. She lived about a year after this, exempt from all evidences of cancerous disease, except pain. There was no ulceration, no hemorrhage, no vaginal discharge whatever, but the neuromatic pain in the cicatrix following the operations was so agonizing that we were obliged to give morphine hypodermically in such large doses that it entirely destroyed all appetite, and my patient, after nearly twelve months of terrible suffering, died of starvation as the result of morphinism.

It is only when the uterus becomes fixed in the pelvis by the exudation of organized lymph, that great pain is experienced. The pain is evidently the result of an amalgamation of the nerves of the parts with the products of inflammation

which produce a neuromatous mass. The pains are frequently of a periodic character, often benefited by quinine, and as before said, always demand the use of opiates.

We cannot account for severe pain supervening during the progress of this disease, except on the principle of the neuroma. And we find in the inflammatory induration of tissue all the elements necessary to constitute this abnormal structure.

In 1876, I attended the meeting of the British Medical Association at Sheffield, and read before the Obstetrical Section a paper on my method of operating for epithelioma of the cervix uteri; after which I was invited by Dr. Watson, of Peniston, to operate the next day on a case of his. The patient was about thirty-three years old. The upper half of the vagina was filled with a large cancerous mass that bled easily on touch. It involved the greater part of the cervix, and was about the size of a small Sicily orange. I was assisted by Dr. Kidd, of Dublin, and by my countryman Dr. Horatio R. Storer. It was agreed that we should preserve samples of diseased tissue from different parts of the epithelioma for microscopical examination. After breaking down and cutting away the bleeding granular mass that filled the vagina, we found diseased tissue extending up the cervix. It even extended to and around the os internum. The cervix was removed conically up to the os internum, and as the peculiar indurated cancerous tissue was found encircling the os internum, it was removed in two semicircular pieces. There then seemed to be no more cancerous tissue to exsect, and the excavated cervical cone was filled with styptic (iron) cotton-wool, and the case treated as before described.

On the following day, specimens of the tissue removed were submitted, with the history of the case and operation, to the obstetrical section of the British Medical Association, and these were referred to Dr. James Ross, of Manchester, for microscopical examination.

The consultants did not think it necessary to submit portions of the tumor projecting into the vagina for examination, as there could be no question about its nature. The question to be solved was this. I insisted that the indurated gristly and gritty feeling tissue removed from the cervix and around the os internum was of malignant nature. If it was, then my method of exsection was the proper one; if not, then exsection of the indurated abnormal tissue of the cervix was not necessary. To this end, two specimens were submitted to the section and referred to Dr. Ross.

1st. Indurated tissue from the supravaginal portion of the cervix, and

2d. Indurated tissue from the circumference of the os internum.

The following is Dr. Ross's report.

To the President of the Obstetrical Section of the British Medical Association.

SIR:—Dr. Thorburn having handed to me two parcels containing

fragments of tissue; and having, along with Dr. Atthill (President of the section), explained that those in No. I. were removed by Dr. Marion Sims from the cervix uteri, after he had previously taken away a mass of what was supposed to have been epithelioma, and that those in No. II. were removed by him from the circumference of the os internum uteri, I have to report that the microscopical appearances obtained from an examination of these specimens are as follows:

No. I.—The fragments of tissue in this parcel contained several hard nodules which felt like shot when pressed between the finger and thumb. Sections of these nodules showed that the healthy tissue was infiltrated by oval, nucleated cells about the $\frac{1}{100}$ of an inch in diameter. These cells were generally arranged in a circular manner, so as to form “nests,” but were not so compressed as to have lost their distinctness of outline. These cells were also observed, although they were not so numerous, in the tissue surrounding the nodules, but sections were obtained from the tissue at a distance from the nodules, in which no cells could be seen.

No. II.—In some of the sections made from the tissue in this parcel, no nucleated cells were met with, but in one portion, where a nodule was felt between the finger and thumb, distinct “nests” of nucleated cells were observed. (Signed)

JAMES ROSS.

MANCHESTER, August 4th, 1876.

Dr. Ross's report confirms others that I have had made, but I give his alone, because he is recognized as one of the most careful and accurate microscopists in England.

His report shows that the tissue removed from the cervix uteri was infiltrated with “nests” of abnormal structure.

The inference is clear, that this must be wholly removed to insure a successful result. But it may well be asked: “Is there no immediate danger from these seemingly heroic excisions?” I am amazed at the impunity with which they are generally performed. But they do sometimes terminate fatally.

I well remember a case sent to me in 1873 by Prof. Loomis and Dr. Osborn, in which the cavity of the uterus was full of epitheliomatous granulations ready to break down. They were rapidly scraped out with the curette. The bleeding was unusually furious, but was promptly arrested by tamponing the uterus with iron cotton-wool. The next day, the patient had a chill, and in three days she died of peritonitis.

Up to the time of my leaving New York, in 1877, this was the only case of the sort that had terminated in this way in my

hands. And I had performed the operation very often. In 1872, I lost a case in the Woman's Hospital about ten or twelve days after operation. She died of some intercurrent affection which I cannot name, because I have not been able to obtain the notes of the case.

In March, 1878, I made a visit to Vienna for a fortnight. While there, I was invited by Prof. Späth to show him my method of exsecting epithelioma of the cervix uteri. For the notes of the case I am indebted to Dr. Josef Kucher, Prof. Späth's assistant.

"Magdalena Czermak, widow, aged 45, menopause 15 months ago; six months ago (Oct., '77), began to have hemorrhages from the uterus, latterly very profuse. On examination the portio vaginalis was found to be degenerated to a neoplasma the size of a goose egg, with an uneven surface which bled easily. The neoplasma extended to the boundary line of the vagina without having attacked the vagina. On the 10th of March, the neoplasma was removed by Dr. Marion Sims with his curette knife and scissors. As the neoplasma extended into the body of the uterus, the greater part of the uterus was removed, leaving only the peritoneal covering. Bleeding was trifling. The bleeding of three arteries was instantly arrested with three hemostatic forceps. The removed mass (medullary carcinoma) weighed 90 grams. The resulting cavity was filled with iron cotton, and the vagina with carbolized cotton. The latter was removed next morning, and the former in the afternoon. The patient complained of pain in the back after the operation, and morphine was given hypodermically, after which the patient vomited several times. When the tampons were removed, the pain and vomiting ceased. The vagina was frequently washed out with carbolized warm water. On the 12th, she had a chill; on the 15th, another. The abdomen was always flat and soft; nowhere tender. On the 15th, at 8 P.M., there was a sudden and violent hemorrhage, and to arrest it the uterus and vagina were tamponed with iron cotton. On the 16th, at 4 A.M., there was another violent hemorrhage, which was again controlled with iron cotton. Soon after this, the patient became collapsed, and died at 7.30 P.M.

The post-mortem was made by Dr. Chiari, about 14 hours after death.

Of the uterus, only the top and the upper two-thirds of the corpus were remaining; the other portion of the uterus, where the cancerous mass was, had been removed almost to the peritoneum. This cavity, as well as the vagina, was filled with iron cotton. The posterior portion of the cervical cavity was perforated by two openings which communicated with the peritoneal cavity. There was also a perforation the size of a pin's head into the utero-vesical cavity. The edges of the openings were escharred by the iron.

There was no inflammation of the peritoneum. In the left ovary there was a recent corpus luteum the size of a pea. Universal anemia to a great degree."—

I saw this case at 6 p.m. on the 16th, just two hours before the first hemorrhage occurred, and in my note-book is the following entry :

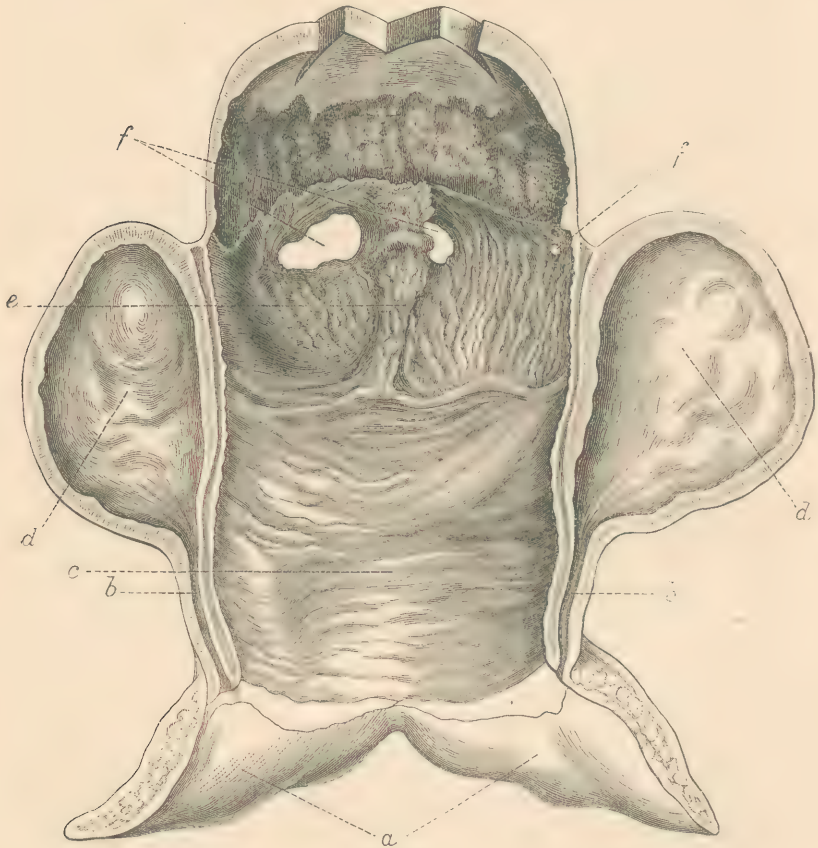


FIG. 12.

"She looks bright and well. Considered out of all danger. Pulse 88. No pain; no nausea; eating and sleeping well."

Dr. Heitzmann made a drawing from Dr. Chiari's preparation of the uterus, vagina, and bladder, which is represented by Fig. 12.

The bladder, anterior wall of the vagina, and of the uterus were split open and laid back as represented in the woodcut. The two large openings near the junction of the cervix and the body of

the uterus represent perforations through the posterior wall into the Douglas peritoneal pouch; the smaller one on the right passed anteriorly into the utero-vesical pouch. These perforations were the result of the sloughing process. The uterus was excavated quite to the fundus as shown in the diagram.

I just escaped performing a brilliant operation in this instance. The idea of it unfortunately did not occur to me till an hour after the operation was finished. This is the first case in which I have removed almost the whole of the uterus to its outer or peritoneal covering. If I should ever have a similar case, I would hook tenacula into the fundus; pull it down so as to get a good grasp on it with volsella, and then it would be easy to wholly invert the organ and remove it entire, as we would in an ordinary case of irreducible inversion.

Prof. Böhm, superintendent and surgeon to the Rudolf Hospital, also invited me to operate on a case of epithelioma of the cervix uteri in his wards, and the following notes have been furnished me.

“ Marie Punick, aged 41, the mother of two children, each born in the eighth month of pregnancy, enjoyed good health till about three months ago. Her menses had always been regular, lasting two days, till the last of December, '77, when she was taken with metrorrhagia and with pain which compelled her to enter our hospital, where we found her in the following condition:

She is well formed and well preserved, but has a pale-yellow tint of the skin. The pulse and temperature are normal.

Nothing abnormal in the thoracic organs. The uterus is a little enlarged and mobile. The vaginal mucous membrane shows great anemia. On the anterior lip of the uterus there is a tumor the size of a large nut, which is hard to the feel and knobby on the surface. On the right edge of the posterior lip, there is a small nodosity.

[Fig. 13 is from a drawing taken from nature by Dr. Heitzmann the day before the operation.]

The operation was performed by Dr. Marion Sims, on the 19th of March, 1878.

The patient took chloroform. At night the pulse was 93, and temperature 37° C. She complained of headache and had some bilious vomiting. The abdomen was somewhat sensitive to the touch. She got ice and opium.

20th.—Pulse, 115; temperature, 37.6° C.; tampons removed; vomiting continuous; abdomen slightly tympanitic.

21st.—Pulse, 112; temperature, 37.4; vomiting more frequent.

22d.—Pulse filiform; lower extremities cold; abdomen tympanitic and very tender to the touch, and at midday she died.

Post-mortem.—Body of slightly jaundiced tint; the head somewhat edematous; the trachea full of bilious mucus, same in larynx and pharynx; thyroid gland somewhat colloid. Both lungs adherent at summit, otherwise free. Parenchyma pale and edematous. In the pericardium a few cubic centimetres of reddish serosity. Heart of normal size, well contracted. In the abdominal cavity there were about 500 cubic centimetres of sero-purulent fluid. The peritoneum is injected and covered everywhere with layers of fibroplastic exudation. The liver is somewhat smaller than it should be, firm and granular.

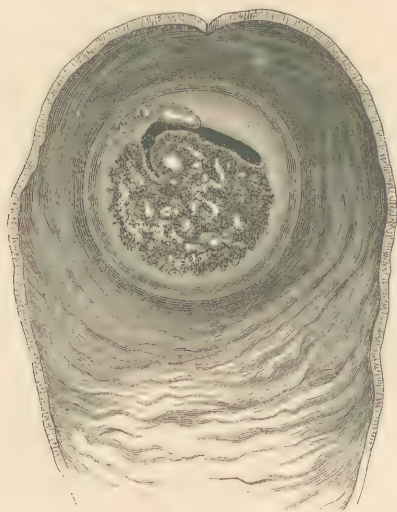


FIG. 13.

The spleen is fifty per cent larger than it should be. The kidneys pale. The stomach and intestines a little distended. In the bladder there was a small quantity of clear urine. The uterus and its annexes were intimately adherent to the surrounding parts. The two Fallopian tubes were dropsical. The ovaries are normally crenated. In the left there is a cyst the size of a nut; its contents sanguinolent. The os tincae, the neck of the uterus, and the lower part of the corpus uteri were wanting. In their place there was a cavity, now suppurating, which is limited by the peritoneum and by a thin muscular layer of the uterus. This cavity was discolored by sesquichloride of iron used in the tampon. It communicated with the peritoneum by several little openings the size of a pin's head, leading to the Douglas cul-de-sac. These little perforations were in the posterior wall of the cervix, about two centimetres above the level of the posterior wall of the vagina, and near the deepest point of excavation. Around the perforations the peritoneum was stained with the sesquichloride of iron. By minute examination

(microscopically) of the pelvic lymphatic glands, we found some of them containing pus, but nowhere did we find any trace of cancer."

Fig. 14 represents the initial step of the exsection.

We seldom see an epithelioma of the cervix uteri at such an early period. Judging from its history and from its appear-



FIG. 14.

ance, it had existed barely three months. The operation was very easy and was quickly done. There was but little bleeding. It was just the case in which we could promise a certain cure. Everything was favorable to success: the age and condition of the patient; the limited extent of the disease; and the thoroughness of its removal, all justified me in giving a posi-

tively favorable prognosis. I was therefore greatly surprised when I visited my patient the next morning to find her in a critical condition.

The accompanying diagram gives a good idea of the extent of the disease. Anteriorly it reached to the os internum. The posterior segment of the cervix was a little more diseased than is shown in the cut. All the diseased structure was removed with the knife aided with the tenaculum. The sense of touch was the guide. Wherever we find gristly tissue, it is

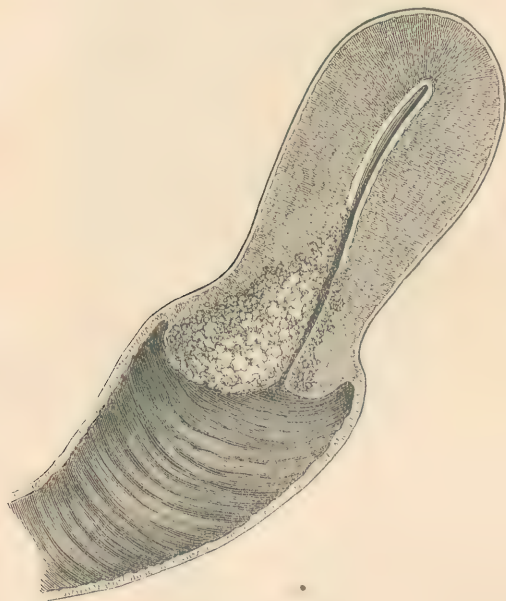


FIG. 15.

to be hooked up with the tenaculum and cut out. This process was here followed up till the whole cervix was exsected, leaving only the peritoneal covering lined with a thin layer of uterine tissue.

I also operated for Prof. Salzer on a case of epithelioma of the cervix uteri. His case was most unfavorable for operation.

This diagram, from a drawing made by Dr. Heitzmann, tells the story of its extent and relations. The anterior lip of the os tincæ was prolonged into a large epitheliomatous tumor, bleeding easily

on touch. The posterior lip was destroyed, and its place occupied by fungoid granulations which extended up into the cervix, and down on the posterior wall of the vagina to within two inches of the perineum. The diagram is placed upside-down, to show the parts as they would be seen in the left lateral semiprone position, with the Sims speculum.

With the curette I removed the granulations from the posterior wall of the vagina. Part of the projecting mass from the anterior portion of the cervix was removed with the curette; the remainder with scissors. After this was cut away to the level of the vagina,

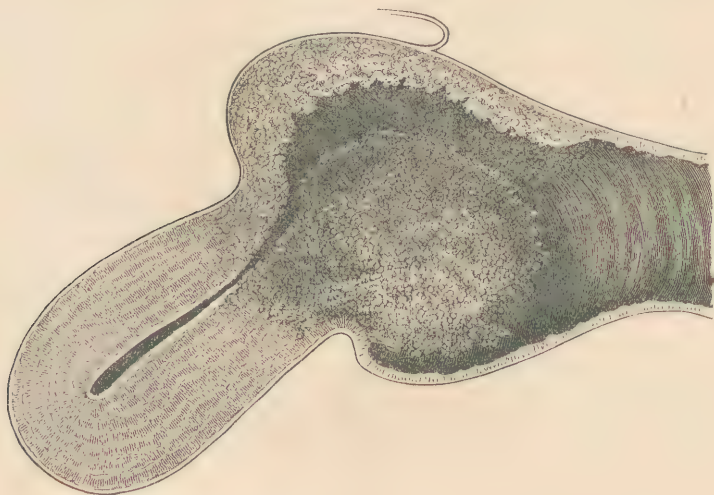


FIG. 16.

the anterior portion of the cervix was hooked with a tenaculum, pulled forward, and then I began to exsect it with the uterotome. While I was cutting away this cervical tissue, a little glistening fatty body, about the size of a bean, floated out on the seat of operation which I at once recognized as a bit of omental or mesenteric fat. Then I knew that the peritoneal cavity had been opened, and by passing my finger in I discovered that the posterior vaginal cul-de-sac was wholly torn loose from the cervix uteri. I thought at first that I might possibly have made the opening with the knife. But on minute investigation it was seen that this hypothesis was out of the question, as the knife could not have passed beyond the canal of the cervix, and as the vaginal attachment was torn loose from the posterior portion of the cervix in a manner to correspond exactly with its semicircular border. This accident was produced by the distal end of the speculum, which, pulling the fornix vaginæ back too forcibly toward the rectum, ruptured its already weakened tissue.

My first idea was to cut away all that portion of the posterior vaginal wall that had been the seat of disease, and then to pull the uterus forward, and unite the two by suture. But by passing one finger in the rectum and another along the posterior wall of the vagina, I discovered that the denuded or diseased portion of the vagina extended forward along the rectum for at least an inch and a half. So I could not carry out my original plan, and was obliged to unite the cervix uteri to the border of the vaginal cul-de-sac, from which it had been torn. I then passed four silk sutures through the posterior border of the cervix and the corresponding portion of the lacerated vaginal cul-de-sac. Two or three ounces of blood had run into the peritoneal cavity through this accidental opening. The distal ends of the sutures were thrown up over the hip and held there; the proximal ends were pulled forward over the anterior wall of the vagina and held; then the middle portion, extending antero-posteriorly across the wound, were pulled apart so as to permit the easy passage of sponge probangs into the peritoneal cavity; then a sponge probang was forcibly pressed on the bleeding cervix to control the oozing of blood, while the peritoneal cavity was thoroughly cleaned out by rapidly passing in one sponge probang after another. After a little while the sponge probangs were passed in and drawn out dry and clean, then the sutures were quickly pulled, and the utero-vagino-peritoneal opening was closed, and held so by tying each suture separately. The ends of the sutures were left long and hanging from the vagina. The operation was then finished just as if this accident had not occurred. The excavated cervix was filled with iron cotton-wool, and the vagina was tamponed as usual. The next morning, the tampons were removed, and the patient speedily recovered from the operation, and in due time left the hospital.

My Vienna experience was most unfortunate, but most instructive.

1. The first patient (Prof. Späth's) died of secondary hemorrhage six days after the operation. The hemorrhage resulted from a slough in the posterior portion of the cervix, which extended through into the peritoneal cavity at the time that the patient was thought to be convalescent and out of all danger.

2. Prof. Böhm's case at the Rudolf Hospital was unusually favorable for operation, and yet she died of peritonitis the third day after operation. Post-mortem showed that the peritonitis was due to minute perforations through the posterior portion of the cervix which communicated with the peritoneal cavity. What caused these little perforations, and what caused the larger perforations in the same locality in Prof. Späth's case?

They were produced in each case by the same cause.

I (and my son Dr. Harry Sims) had performed so many operations of this kind, and with such impunity, that it did not occur to me that anything but good could come from forcible tamponing. I looked upon it as powerful to control hemorrhage and as dangerous only in producing septicemia if the tampon were allowed to remain too long *in situ*. And this we could easily control by removing it and using antiseptic injections.

In Prof. Späth's case, the lower part of the uterus was almost wholly exsected, leaving only a membranous bag composed of but little more than peritoneum. This membranous bag was too forcibly packed with iron cotton-wool, and its circulation was thereby obstructed, and three sloughy openings, two of them large enough to admit the end of the finger, were the result.

In Prof. Böhm's case, the little perforations through the posterior wall of the cervix into the peritoneum were made in like manner by forcible tamponing. In this case there is every certainty that the tissue yielded at once to the packing of the tampon.

In each and in every case, the force exerted in strongly tamponing the cavity of the excavated cervix would inevitably be expended against the posterior wall of the cavity, and not against the anterior which is out of the line of action.

In the first case, the forcible impaction of the excavated cavity produced a slough at the point of greatest pressure.

In the second case, the forcible impaction of the excavated cavity produced an immediate laceration of tissue at the point of greatest pressure; each case terminating fatally, one by secondary hemorrhage, the other by peritonitis.

In neither of these cases was the bleeding during the operation profuse; and in neither would death have occurred if the tampon had not been used.

An important lesson is thus sadly and indelibly impressed upon my mind, and I wish others to profit as well by it.

3. The accident that occurred in Prof. Salzer's case, the disruption of the posterior wall of the vagina from the cervix uteri was unavoidable. No one was to blame for it. The vagina at its uterine attachment was so weakened, and so nearly

destroyed by cancerous degeneration that it required but slight traction to tear it asunder.

It was fortunate that this accident was promptly and thoroughly repaired.

The following inferences seem to be deducible from the facts set forth in this paper.

1. Do not amputate or slice off an epithelioma of the cervix uteri on a level with the vagina, whether by the *écraseur* or the electro-cautery.

2. Exsect the whole of the diseased tissue, even up to the os internum if necessary.

3. Arrest the bleeding, when necessary, with a tampon of styptic iron or alum cotton-wool.

4. Be careful not to apply the tampon with such force as to lacerate the excavated cervix uteri.

5. When the styptic tampon is removed, cauterize the granulating cavity from which the disease was exsected with chloride of zinc, bromine, sulphate of zinc, or some other manageable caustic capable of producing a slough.

6. After the removal of the caustic and the slough it produces, use carbolized warm-water vaginal douches daily till cicatrization is complete.

7. After the cure, put the patient on the use of arsenic as a protection against the cancerous diathesis, and urge the importance of examination every two or three months for the purpose of detecting the recurrence of disease.

8. Then if fungous granulations or knobby protuberances not larger than a pea are found, lose no time in removing them; and treat the case afterward with caustic just as in the first instance.

9. Almost every case may be benefited by operation, even when there is no hope of giving entire relief.

Dr. Reamy, of Cincinnati, performs this operation by exsection and not by amputation. We both worked out this method of operating about the same time independently of each other, and we both published our results about the same time. I have always exsected the cervix piecemeal. But Dr. Reamy often takes it out with scissors in one solid piece, reaching quite up to the os internum.

During a visit to Koeberle in September, 1877, he informed

me that he now never amputates the epitheliomatous cervix uteri; but he exsects it quite up to the os internum if necessary. He operates in the early stages of the disease, and uses Paquelin's thermo-cautère, removing a conical plug from the cervix. Dr. Wilson,¹ of Baltimore, has recently performed this operation in the same way, and he has proven that the Paquelin cautery can be successfully used in the Sims position with the Sims speculum. This is one of the most important improvements as yet made in this operation.

Mr. Spencer Wells informed me to-day (May 5th, '79), that he has successfully exsected the cervix uteri for incipient carcinoma with the Paquelin cautery. But the disease is now re-appearing.

I have no prejudices in favor of my own plan. But we can by the sense of touch follow up the diseased tissue and remove it all; while by the cautery there will always be a doubt whether we have done this or not. It is possible that the actual cautery may be preferable to the potential after the diseased tissue is exsected. The point that I insist on is, that the disease should be exsected and not merely amputated, whether this be done with cutting instruments or the actual cautery.

I have no experience with Prof. Schroeder's method of removing the entire cervix, nor with Prof. Freund's operation of extirpating the whole organ for epithelioma of the cervix. But the medical mind in my own country and in Germany is now so actively concentrated on this subject that it must eventually result in improved methods of treatment.

¹ Maryland Medical Journal, Dec., 1878.

